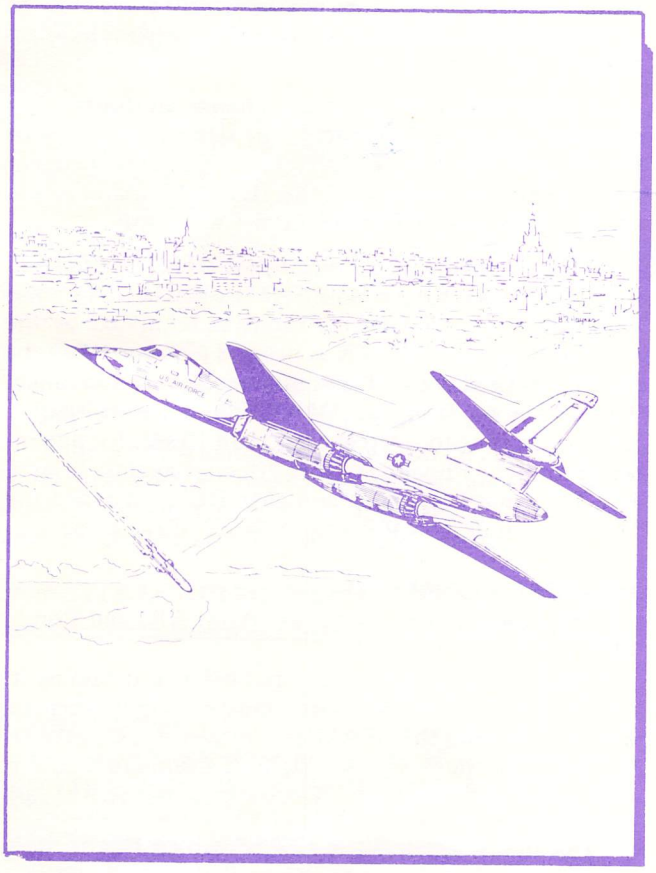
B-1 Nuclear Bomber



B-1 NUCLEAR BOMBER GAME RULES

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The Avalon Hill Game Co., Baltimore, MD, Printed in USA

FOR:
ATARI 400/800®,16K Memory
Apple II®, Applesoft® Basic, 16 K beyond Basic
PET® 2001, 16K Memory
TRS-80® Level II, 16K Memory

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INTRODUCTION

B-1 is a computer simulation of a manned bomber nuclear strike mission into Soviet Russia. The player gives commands to the computer which 'flies' the bomber on the mission. The bomber must fly to within bomb range of its target to deliver its weapon. It is opposed by nuclear armed MIG's and SAM's of the USSR's air defense system. It defends itself with ECM, evasive action and nuclear tipped multi-purpose Phoenix missiles. A two-color map is enclosed in your game package for directional assistance in course setting.

PROGRAM STARTUP

The program starts by printing an initial display containing the primary target of the mission, the five letter failsafe code which is required to arm the bomb, and a list of alternate targets and Soviet defense complexes. The program then enters the main loop in which it requests and processes the pilot's command and then runs the Soviet Air Defense Command, launching MIG's and SAM's.

BOMBING THE TARGET

The B-1 bomber in the game carries one Short Range Attack Missile (SRAM) with a one Megaton warhead. This is large enough to completely destroy the target. The SRAM has a range of 250 kilometers (km).

The primary target is chosen at random from the list of targets. All targets have a population of more than one million persons.

The Fail Safe Code is a group of five random letters. Its purpose is to prevent inadvertent arming of the SRAM. A note of the code should be made prior to giving the first command. It will be used later to arm the SRAM.

THE SOVIET AIR DEFENSE COMMAND

The air defenses of the Soviet Union consist for the purposes of this game of about twenty Defense Complexes (DC's). Each DC evaluates the range to the B-1 and decides whether to launch every time interval. Launching depends on range (750 km max), altitude (lower less likely) and the state of the SRAM. A B-1 without SRAM is less likely to be attacked; one with an armed SRAM draws a great deal of attention. A launch will cause a message to be displayed on the screen giving type of unit launched (either a MIG or SAM) and intercept time, as well as the name of the launching DC. Unless prevented in some way each unit will intercept, resulting in a nuclear airburst which can cause destruction of the bomber. It can also cause changes in course and speed and loss of fuel.

SAM's and MIG's may be defended against by use of Electronic CounterMeasures (ECM), evasive action or Phoenix missiles. Phoenix missiles may also be used to eliminate DC's from a range of up to 200 km.

ECM causes MIG's and SAM's to lose their target. Repeated use lowers its effectiveness. ECM is better against SAM's and is not range dependent.

Evasive action is a violent alteration in course and altitude, which works better against SAM's than MIG's.

It works only on close units. It poses the risk of flying into the ground when starting at low altitude.

Phoenix missles are nuclear tipped homing missiles. They may be fired at units within 10 seconds of intercept. They work better against MIG's. They may also be fired against DC's in range.

Each type of defense is selected by giving the computer the appropriate command.

COMMANDS

Commands may be divided into four types: flight control, navigational, combat and bombing. Each command and each target and Defense Complex is recognized by the computer from its first two letters e.g. EC for ECM, PH for Phoenix missile, MO for Moskva, KO for the Konosha Defense Complex.

After each command is entered there will be a short delay while the computer processes Soviet air defenses. For long autopilot times this delay will be longer.

FLIGHT CONTROL COMMANDS

Flight control commands are Altitude: AL, course: CO and Autopilot: AU. Altitude requests an ordered altitude, which the B-1 will then climb or dive to at its maximum rate. Although orders greater than 25,000 m or less than 100 m can be given the computer will not fly the B-1 outside these limits. Altitude affects the probability of a DC launching, lower being less likely. However, enough room should be left for evasive action or the effects of a nuclear airburst. In addition flying below 300 m runs the risk of a terrain avoidance radar failure, i.e., the B-1 flying into the ground. Should evasive action or an airburst change the B-1's altitude it will stay at the new altitude until it receives new orders.

Course requests an ordered course to which the B-1 will turn at maximum rate. If altered by evasive action or airburst the B-1 will stay on the new course until further orders.

Autopilot will request a time for the autopilot to fly the B-1. For convenience this is arranged in seconds, minutes, hours. While the autopilot is in control the player may not interrupt it. Events which occur which generate messages, such as MIG or SAM launch or any target coming into range, will cause the autopilot to return control to the player. The exception to this is a report of a target going out of range, which will not interrupt the autopilot.

NAVIGATIONAL COMMANDS

The navigational commands are Navigator: NA, Search: SE, Status: ST, and Radar: RA.

Navigator requests a city to fly to. It recognizes all targets and Defense Complexes from the first two letters of their names. It also recognizes TH for Thule AFB, to which the B-1 must return upon completion of its mission. It will produce a range and bearing to the desired city. Use of the navigator takes a large amount of game time. This is not the command to use with a MIG hot on your tail!!

Search will return the range and bearing of the nearest active Defense Complex within +/− 45 degrees of the B-1's present course. This is intended as an aid to flak suppression. The search command also requires a large amount of game time.

Status returns a display of important aircraft parameters including fuel and a contact summary. Radar returns only the contact summary. A contact summary is also printed before each request for a command if any contacts are held.

COMBAT COMMANDS

The combat commands are ECM: EC, Evasive Action: EV, and Phoenix Missile: PH.

ECM, or Electronics CounterMeasures, may cause airborne MIG's and SAM's to lose their targets or self destruct. The effect is not range dependent and works better on SAM's. With each use the effectiveness of ECM is reduced because the Soviets figure out what is happening.

Evasive action is a violent change in course and altitude to throw off pursuers. The size and direction of the change is random. The effect is very range dependent and works better on SAM's than MIG's. If evasive action results in a negative altitude the B-1 will crash.

Phoenix missiles are armed by the PH command and then launched against a close SAM or MIG or a Defense Complex within 200 km. A target is requested by the computer. If only ENTER is pressed ('N' for PET) the Phoenix is fired at the closest interceptor if it is in range. This is known from the 'MIG-25 in Phoenix range.' message or time to intercept less than 10 sec. for any interceptor. The Phoenix is more effective against MIG's. If a DC's name is input and that DC is in range the Phoenix will destroy it for the balance of the game.

BOMBING COMMANDS

The bombing commands are Arm: AR, and Bomb: BO.

Arming the SRAM is required prior to dropping it. To do this the Fail Safe Code must be input when requested. Arming the SRAM also results in excessive attention from the Soviet Air Defense Command, so it is wise not to do this too early. Once armed, the SRAM cannot be disarmed.

The Bomb command launches the SRAM. A final verification in Yes/No format is required. A No answer aborts the drop.

ENDING THE GAME

The game is ended when the B-1 is destroyed or returns to base. To end the game after dropping the SRAM head for Thule AFB (TH). At a certain distance from Russia over the Arctic the game is ended.

Note—Although the B-1 may not have enough fuel to reach Thule on its own it is presumed to refuel in flight from a tanker aircraft over the Arctic.

No matter how the game is ended a short mission summary is printed and a chance to play again is offered.

EXAMPLES OF PLAY

This section gives some examples that will be useful for the computer game beginner. An important thing to keep in mind is that the computer expects the player to input his commands in a very precise format and terminate

them by pressing the "ENTER" (or "RETURN") key. The computer is very literal-minded and can't make guesses about what was REALLY meant! (Note that there will be some very minor differences between the versions for the different computers, but all versions are very nearly identical.)

The following sequence is a typical course of events during the play of the game:

COMMAND? (Computer puts this on the screen.)
AL [ENTER] (Player types request for new altitude.)
NEW ALTITUDE? (Computer.)
5000 [ENTER] (Player types request in meters.)
(B-1 is now climbing to 5000 meters. Meanwhile . . .)
COMMAND? (Computer.)
NA [ENTER] (Player requests navigation aid.)
WHERE TO? (Computer.)
MO [ENTER] (Player. Short for Moscow.)
MOSCOW BEARS 143.7T RANGE 2543 KM. (Computer)
COMMAND? (Computer.)
CO [ENTER] (Player requests a new course.)
NEW COURSE? (Computer.)
143.7 [ENTER] (Player heads for Moscow.)
COMMAND? (Computer.)
AU [ENTER] (Player turns on autopilot.)
TIME FOR AUTOPILOT (S,M,H) ? (Computer.)
0,0,2 [ENTER] (Player requests a maximum of 2 hours game time.)
(The computer will now fly the B-1 until something important happens or the 2-hour limit runs out.)

While entering commands may seem difficult at first, a little experience will make entering them almost second nature. Note that the computer won't let you do anything against the rules, so don't worry about that!

CASSETTE LOADING INSTRUCTIONS

ATARI 400/800

Lift the cartridge door on your ATARI 400/800 computer and insert the COMPUTING LANGUAGE BASIC cartridge into the computer. Use the LEFT CARTRIDGE slot on the ATARI 800 system.

Press the POWER switch on the side of the console ON. With SIDE ONE of the cassette up, put it into your ATARI CASSETTE RECORDER and press 'REWIND' until the tape stops moving. Using the keyboard, type:

CLOAD

Then press the 'RETURN' key on the keyboard. You will hear one beep. Push 'PLAY' on the recorder and press the 'RETURN' key on the keyboard again. The recorder should start to move and the program will be loaded. By turning up the volume on your video screen you can hear the program being loaded. When the tape stops, the program has been transferred from the cassette tape to the computer. 'READY' will be displayed on the screen. Type: 'RUN' and press the 'RETURN' key to play the game. The program has been recorded on the cassette twice to insure against errors in loading. Should your video screen display the word ERROR, press the RESET button at the top righthand corner of the keyboard and repeat all of the above loading instructions.

To assure a successful load on your Atari computer we suggest you advance the clear portion of tape (leader) until the brown magnetic portion is just visible to the left of the cassette head.

APPLE II

The APPLE program is located on SIDE ONE after the Atari program. There are two copies of the Atari program which must be skipped before the APPLE program can be loaded. By listening to the tape, you can tell the difference between the two programs. The APPLE program is easily recognized by the relatively high pitch and 'pure' quality of the calibration tone at the beginning of the program. This tone is free of the characteristic Atari buzz. Find the beginning of an APPLE program and position the tape to just after the start of the calibration tone. Set up the recorder for input. On the keyboard, type:

LOAD (Don't hit 'RETURN' yet).

Press 'PLAY' on the recorder and immediately press 'RETURN' on the keyboard. The computer will start reading in your program. The computer will beep twice, once at the beginning of the program and once at the end. This program is not short and will take a few minutes to load. When you hear the second beep, type:

RUN

and press 'RETURN' to play the game.

COMMODORE PET 2001

Turn the tape over so SIDE TWO is up. Insert the tape in your recorder and rewind to the beginning of the tape. When ready, type:

LOAD

and press the 'RETURN' button on the keyboard, then the 'PLAY' button on the recorder. The tape should start moving, and start loading your program. This program is not short, and will take several minutes to load. The computer will tell you when it finds the program and starts loading. When done, the computer will print 'READY', and the tape will stop. Type:

RUN

and press 'RETURN' to play the game.

CASSETTE LOADING INSTRUCTIONS

TRS-80

The TRS-80 program is located on SIDE TWO after the PET 2001 program. There are two copies of the PET program which must be skipped before the TRS-80 program can be loaded. By pulling out the EAR and MIC jacks on the recorder and listening to the tape, you can differentiate the PET program from the TRS-80 program. The PET sounds louder, yet has a lower pitch. Both PET programs last approximately a total of 8½ minutes and are followed by a portion of blank tape which is your cue to prepare to load the TRS-80 program.

Check that the volume control is set to the proper level (between 5 and 6 is normal). Press 'PLAY' on the recorder, type:

CLOAD
(For Mod III only, enter: L after CASS?, then CLOAD)

and press the 'ENTER' key on the keyboard. The recorder should start to move and your program will be loaded. This will be indicated by the flashing asterisk at the upper right corner of the screen. This program is not short, and will take several minutes to load. When the tape stops and the TRS-80 prints 'READY' on the screen, type:

RUN

and press 'ENTER' to play the game.

IF YOU CANNOT LOAD THE PROGRAM

1. Check your equipment carefully to be sure that all cables and connections are correct.
2. Re-read the section in your computer's manual that tells you how to load a tape. Try to load the tape again.
3. If you can adjust the volume on your recorder, try different settings, both higher and lower.
4. Each program is recorded twice on the tape, one recording right after the other. By listening to the tape, find the beginning of the second recording and try to load it.
5. If possible, load another program from a tape you know works on your computer. This will prove that your equipment works. Try once more to load your game.
6. The normal reason tapes will not load is tape recorder head misalignment. Your computer may be able to save and load programs on its own recorder, but be unable to read tapes made on a different recorder for this reason. Be sure your recorder heads are correctly aligned. Your local computer store or dealer can help you with this.
7. If the program still cannot be loaded, send the cassette, with a complete description of the problem (what type of computer you have, what the computer says, if anything, when you try to load the cassette or play the game and what you did to try to get it to load.) to:

Avalon Hill Microcomputer Games
4517 Harford Road
Baltimore, Maryland 21214

Defective cassettes will be replaced.

After the program is loaded

Once you have your program loaded, it is a good idea to make a backup copy (for your own use). Follow the normal procedure for saving a basic program in your computer's manual.

YOU NAME IT, WE'VE GOT A GAME ON IT . . .
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Package Design & Art: Bob Haynes
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